

NOTE ON DR GREGORY'S PROCESS FOR PREPARING PURE CHLOROFORM.

BY
PROFESSOR CHRISTISON.

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The process proposed by Dr Gregory in the May Number of this Journal for preparing a perfectly pure chloroform, has given occasion to various notices in contemporary journals, some of them laudatory, and others the reverse. Among the latter may be mentioned the statement of a late writer in the "Pharmaceutical Journal," that chloroform prepared in Edinburgh, avowedly by the process in question, was found, in Liverpool, to have undergone decomposition, to have become loaded with chlorine, and to be quite unfit for use. In Dr Gregory's absence on the continent, I have felt it to be my duty to make inquiry into the truth of this statement; and the result is, that no less than three manufacturers in Edinburgh have tried the process on a considerable scale, and that all have failed to obtain a permanent article. A chloroform of fine quality is obtained in the first instance; but it does not keep many days; and ere long it becomes so loaded with chlorine that its vapour cannot be inhaled.

I have not had time to investigate fully the cause of this unexpected phenomenon, or to ascertain whether it is an inherent fault in the process, or depends rather on some manipulation having been practised, or left out, which Dr Gregory may have neglected to particularise. But this much seems certain,—1. That chloroform purified by one treatment, with pure sulphuric acid, free of nitrous acid, keeps perfectly; 2. That such chloroform, if left in contact with ordinary sulphuric acid, containing, as it generally does, an impregnation of nitrous acid, will, in less than twenty-four hours, undergo decomposition, and afterwards rapidly evolve chlorine; 3. That if a drop or two of nitrous or common nitric acid be added to an ounce of pure sulphuric acid, the decomposition goes on with far greater speed; 4. That if the sulphuric acid be carefully freed of nitrous acid, so as not to affect solution of green vitriol, no change may occur in the chloroform for an entire week; 5. But that, nevertheless, even with pure acid, decomposition begins at last, so that, in four weeks, the odour of chlorine is intolerable. It therefore seems probable, that the best chloroform cannot resist the protracted contact of sulphuric acid; and that even the repeated action of that acid,—for example, when used to effect thorough purification, according to the method of Dr Gregory, produces some change, which, though inappreciable at first, gradually leads to decomposition in the end. Why this happens, whether it always happens, or in what circumstances, are questions which we are not prepared to answer. It is probable, however, that Dr Gregory will be able ere long to do so satisfactorily; for there is a specimen of chloroform in his laboratory, which was prepared six months ago by his process, and which is still quite unaltered. Meanwhile, it is obvious that manufacturers ought not to adopt that process until farther explanations shall have been given. It may be added, that the Edinburgh manufacturers have recalled from their customers the chloroform which had been manufactured by the repeated use of sulphuric acid; and that the spurious article is very easily known by the pungency which is added to the purely ethereal odour of the uncontaminated preparation.

